

ABSTRACT OF THE DISCLOSURE

A helicopter having a helicopter turbine engine disposed therein includes an over-stress protection system. The over-stress protection system includes a computer for storing data and an input such as a keyboard for inputting a safe temperature profile for starting the turbine engine. A temperature sensor is provided for measuring the actual turbine outlet temperature during the start up of the helicopter turbine engine. The actual engine temperature is then compared with the safe engine temperature profile and water and/or alcohol is injected into the engine when an actual temperature exceeds the safe temperature. The use of a ground based tank for use during start up and an airborne tank for in flight use are also disclosed.